

Abstract**Illumination unit and method for the operation thereof**

An illumination unit comprising

- 5 - a high-power light source (1),
- a first optical element (12) for focusing the
light emitted from the high-power light source (1),
- a photometric head (8) for illuminating an
object (3) in a predefinable manner,
- 10 - an optical waveguide (2) for transmitting the
emitted and focused light to the photometric head (8),
- a displacement unit (6) for varying the axial
distance between the high-power light source (1) with the first
optical element (12) and the inlet of the optical waveguide,
- 15 wherein the cross-sectional surface of the focal point is at
least twice as large as the cross-sectional surface of the optical
waveguide (2) on the light inlet side, and the intensity of the light coupled
into the optical waveguide (2) can be varied by axial displacement of the
high-power light source (1).
- 20 Figure